

Testimony to the State Board of Education

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Good Afternoon Madam President Hernandez and members of the State Board of Education. My name is Cindy Cullen and I am here to discuss the proposed 2009 math standards revisions that will soon come before you for approval and subsequent adoption.

First, let me tell you about myself. I have an M.S. in Computer Science and am an executive at Bristol-Myers Squibb in Information Technology. Additionally, I am Chief Technology Officer for Safe BioPharma Association, a consortium of biotech, pharmaceutical and healthcare organizations. I have been a Board of Education member in the Bridgewater-Raritan Regional School district for six years and am currently the Board President. Today, I am not representing the BRRSD Board of Education; I am here today to speak as an individual.

The Draft Math Standards is not of a caliber to propel NJ students to be competitive in a global marketplace, a global workforce. The competition for jobs is no longer primarily within the US. We no longer have the luxury of only competing with US educational institutions. The workforce is a global workforce and US educational institutions must realize this and raise the standards to make the US workforce viable in a global economy.

There is a lack of basic skills in elementary, middle and high school. The logic that states it is not necessary to know addition, subtraction, multiplication and division by memory leaves our children at a great disadvantage. An inordinate number of students arriving at college are requiring remedial math courses. Those heading to the work force are also struggling.

As we all know, districts choose curricular programs that are aligned to the state standards. However, these programs are leaving our kids behind. There is a lack of clarity in teaching mathematics. Teaching children lattice, column, addition, partial products, and various other non-traditional methods

are confusing and consume precious time that could be far better used. These teaching techniques should be discouraged! Far too many students are requiring math intervention. Many families are compelled to use private tutors and tutoring services. Millions of dollars are being spent on remediation, basic skills intervention, and tutoring. Special needs students and economically disadvantaged students are disproportionately impacted.

The New Jersey Administrative Code dictates that Core curriculum Standards are reviewed and revised every five years. Now is the time to see that all content areas standards are on par with international benchmarks. This is essential so NJ children can compete in the global economy.

The 2009 math standards revisions do not incorporate the key recommendations of the 2008 National Math Panel's Final Report. Here are a few examples:

- A focused, coherent progression of mathematics learning, with an emphasis on proficiency with key topics, should become the norm in elementary and middle school mathematics curricula. Any approach that continually revisits topics year after year without closure should be avoided.
- Students should understand key concepts, achieve automaticity as appropriate (i.e., addition, subtraction, multiplication, and division facts), develop flexible, accurate, and automatic execution of the standard algorithms, and use these competencies to solve problems.
- Emphasize student mastery, accuracy, and automatic execution of the standard algorithm and fluency with fractions (including decimals, percentages, and negative fractions).
- The Panel cautions that to the degree that calculators impede the development of automaticity, fluency in computation will be adversely affected.

International studies show that high-achieving nations teach for mastery in a few topics, in comparison with the U.S. mile-wide-inch-deep curriculum. Just last month, the National Governor's Association published a report called, **Benchmarking for Success: Ensuring U.S. Students Receive a World-class Education.**

(<http://www.nga.org/Files/pdf/0812BENCHMARKING.PDF>)

This report provides states a roadmap for benchmarking their K-12 education systems against those of top-performing nations. This report states that "...the U.S. cannot afford to rest on its past accomplishments. The global knowledge economy is here, and if state leaders want to ensure that their citizens can compete in it, they must seize the initiative, looking beyond America's borders and benchmarking their education systems with the best in the world."

Ladies and gentleman of the Board, I urge you dramatically improve the proposed 2009 math standards prior to approval. The NJ Department of Education needs to look beyond our country's borders to benchmark against the highest performing nations on international math tests. California, Massachusetts, and Indiana have already. The future of NJ and our Nation is dependent upon the education of our children today. We need to provide NJ students with a world class education to compete in a global economy.

Thank you for your time.